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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,679	12/17/2003	Hideko Inoue	740756-2689	4095
22204	7590	04/14/2005	EXAMINER	
NIXON PEABODY, LLP			YAMNITZKY, MARIE ROSE	
401 9TH STREET, NW			ART UNIT	
SUITE 900			PAPER NUMBER	
WASHINGTON, DC 20004-2128			1774	

DATE MAILED: 04/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/736,679

Applicant(s)

INOUE ET AL.

Examiner

Marie R. Yamnitzky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/17/03, 07/06/04 and 07/29/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date rec'd 12/17/03 and 07/06/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. Claim 10 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Claim 10 depends from any of claims 4 to 9, and claims 6 and 9 each depend from claim 3, which depends from claim 1 or claim 2. Accordingly, claim 10 as dependent from claim 6 or claim 9 is an improper multiple dependent claim. (For purposes of comparing to the prior art, claim 10 is examined as dependent from any of claims 4, 5, 7 or 8.)

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Buey et al. in *Chem. Mater.* Vol. 8, pp. 2375-2381 (1996).

Compounds 9a and 9b as disclosed by Buey et al. are compounds of general formula 2 as defined in present claim 1, and further defined in present claims 2 and 3, wherein R₁ represents an aryl/substituted aryl group, each of R₂, R₃, R₄ and R₆ represents hydrogen, R₅ represents an alkoxyl group, M represents platinum (an element of Group 10), n = 1, and L represents a monoanionic ligand of formula 3.

4. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Diez et al. in *Journal of Materials Chemistry*, Vol. 12, pp. 3694-3698 (2002).

The mononuclear platinum compounds made according to Scheme 1 as depicted on page 3694 in the article by Diez et al. are compounds of general formula 2 as defined in present claim 1, and further defined in present claim 2, wherein R₁ represents an aryl/substituted aryl group, each of R₂, R₃, R₄ and R₆ represents hydrogen, R₅ represents an alkoxyl group, M represents platinum (an element of Group 10), n = 1, and L represents a monoanionic ligand having a β -diketone structure.

5. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Cave et al. in *Journal of Organometallic Chemistry*, Vol. 555, pp. 81-88 (1998).

Cave's compounds (3) and (4) as depicted in Scheme 1 on page 82 are compounds of general formula 2 as defined in present claim 1 wherein R₁ represents an aryl/substituted aryl group, each of R₂, R₃, R₄ and R₆ represents hydrogen, R₅ represents an alkoxyl group, M represents palladium (an element of Group 10), n = 1, and L represents a monoanionic ligand having a β -diketone structure. Cave's compound (3) in which R and R' = Me further meets the limitations of the compound of general formula 2 as further defined by present claim 3 wherein L represents a monoanionic ligand of formula 3.

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Saccomando et al. in *Journal of Organometallic Chemistry*, Vol. 601, pp. 305-310 (2000).

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Saccomando's compounds (3)-(6) as depicted in Scheme 1 on page 306 are compounds of general formula 2 as defined in present claim 1 wherein R_1 represents an aryl/substituted aryl group, each of R_2 , R_3 , R_4 and R_6 represents hydrogen, R_5 represents an alkoxyl group, M represents palladium (an element of Group 10), $n = 1$, and L represents a monoanionic bidentate ligand having a carboxyl group.

7. Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Hamada et al. (US 2003/0194580 A1).

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

See the entire published application. In particular, see formula (16) on page 2, see paragraphs [0009]-[0015], and see the claims. Hamada et al. disclose compounds of general formula 2 as defined in present claim 1, and further defined in present claims 2 and 3, wherein M represents iridium (an element of Group 9), $n = 2$, and L represents a monoanionic ligand of formula 3 or formula 5. With respect to present claims 4-10, Hamada's compounds are disclosed for use as a light emitter in an electroluminescent device.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. (US 2002/0034656 A1).

See the entire published application. In particular, see Fig. 11, Fig. 49, paragraphs [0052], [0058]-[0059], [0169]-[0173] and [0183]. Thompson et al. suggest iridium compounds of general formula 2 as defined in present claim 1, and further defined in present claims 2 and 3. With respect to present claims 4-10, Thompson et al. disclose the iridium compounds for use as a light emitter in an organic electroluminescent (EL) device.

Thompson et al. disclose compounds of formula L_2MX where L may be a phenylimine, and X may be monoanionic ligand such as acetylacetonate (a ligand of present formula 3), picolinate (a ligand of present formula 5), salicylanilide (a ligand similar to the ligand of present formula 7, differing only in having $=NCH_3$ instead of $=NH$), salicylaldehyde (a ligand of present formula 8), or 8-hydroxyquinolate (^athe ligand of present formula 9).

Thompson et al. do not disclose a specific example of a compound within the scope of the present claims, but such compounds are clearly suggested by Thompson's disclosure. It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to make compounds of formula L_2MX utilizing the L and X ligands taught by Thompson et al. in order to provide a variety of compounds suitable for use in an EL device as taught by the prior art. One of ordinary skill in the art at the time of the invention would have

reasonably expected that iridium compounds of formula L_2MX having the L and X ligands taught by Thompson et al. would be luminescent materials and would be suitable for use in the luminescent layer of an organic EL device.

Thompson et al. do not explicitly define R and R' for the phenylimine formula shown in Fig. 49 but, based on Thompson's disclosure as a whole and paragraphs [0169]-[0173] in particular, one of ordinary skill in the art at the time of the invention would have reasonably expected at least alkyl and aryl groups to be suitable substituents since Thompson et al. disclose alkyl and aryl substituents as suitable for other luminescent compounds within Thompson's disclosure.

10. Claims 1 and 3 are objected to because of the following informalities:

A period is needed at the end of claim 1.

In claim 3, the period needs to be moved from the end of line 2 to the end of the claim.

Appropriate correction is required.

11. Miscellaneous:

In claims 4-10, "using" is interpreted as "comprising".

The recitation of "electroluminescent device" is interpreted as requiring a structure comprising a pair of electrodes in addition to the organometallic complex since a pair of electrodes is a basic required component of an electroluminescent device.

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If applicant disagrees with the examiner's interpretation regarding either of the above issues, clarification of the record is required.

The specification contains several grammatical and spelling errors (e.g. "Trough" at page 1, line 17; "wards" at p. 1, l. 23, "a lightweight" at p. 2, l. 4; "be considered to is" at p. 3, l. 4; "Blettin" at p. 3, l. 8). While some of the corrections are self-evident, and could be corrected by the examiner by informal examiner's amendment at such time of the application is otherwise in condition for allowance, not all corrections are self-evident. Therefore, Applicant's assistance in correcting grammatical and spelling errors in the specification is respectfully requested.


12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Heuer et al. (US 6,869,697 B2) disclose iridium compounds having three phenylimine ligands (see col. 4, l. 1-53) whereas iridium compounds encompassed by the present claims have only two phenylimine ligands and the L ligand.

13. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (571) 272-1531. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

The current fax number for Art Unit 1774 is (703) 872-9306 for all official faxes. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (571) 273-1531.)

MRY
April 11, 2005


MARIE YAMNITZKY
PRIMARY EXAMINER
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